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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,478	07/19/2000	Shunpei Yamazaki	0756-2187	1882

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NIXON PEABODY, LLP  
8180 GREENSBORO DRIVE  
SUITE 800  
MCLEAN, VA 22102

EXAMINER

ANYASO, UCHENDU O

ART UNIT	PAPER NUMBER
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2675

17

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/619,478

Applicant(s)

YAMAZAKI ET AL.

Examiner

Uchendu O Anyaso

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 3/25/13.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

DETAILED ACTION

1. **Claims 1-32** are pending in this action.

*Claim Rejections - 35 USC ' 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2, 4-7, 9-18, 20-23, 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sawada* (U.S. 6,078,317).

Regarding **independent Claims 1, 6, 11, 14, 17 and 22**, *Sawada* teaches a ferroelectric liquid crystal display (4) (column 3, lines 38-40, figure 1 at 4).

Furthermore, *Sawada* teaches an image signal processing circuit by teaching a video signal processor (2) and digital image processor (3) (column 3, lines 38-40, figure 1 at 2).

Also, *Sawada* teaches a control circuit in the form of a display mode dependence controller (17) that is connected to the digital image processor 3 and the scanning control circuit 22 (figure 1 at 3, 17). On the other hand, *Sawada* does not show the controller 17 feeding directly to display unit 4.

However, it would have been obvious to a person of ordinary skill in the art to learn from *Sawada's* design as to how to connect the controller 17 directly to the display unit 4 because the scanning control circuit 22 would be made an integral part of the display unit 4. [This configuration resembles applicant's design which shows the control unit 170 connected directly

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to the source driver circuit 110, 120, and the gate driver circuit 130 (*see applicant's figure 1 at 110, 120, 130*).] The connection in Sawada of the controller 17 to the scanning control circuit 22 reads directly on applicant's circuit connectivity as shown in figure 1 (Compare figure 1 of Applicant and Sawada). The motivation for doing so would have been to provide a display device which can display an image in correspondence with various display modes (column 2, lines 40-45), and to achieve a scanning control circuit 22 that changes the scanning method in accordance with an instruction from the display mode dependence controller 17 in correspondence with the display mode (column 4, lines 40-43).

Furthermore, *Sawada* teaches that the gamma characteristic adjustment circuit (19) adjusts the characteristics included in the RGB image data in correspondence with the display panel (24) by utilizing a look-up table embedded within the gamma characteristic adjustment circuit (19) (column 4, lines 10-24, figure 1 at 19, 24).

Regarding **Claims 2, 5, 7, 10, 12, 13, 15, 16, 18, 21, 23 and 26**, in further discussion of claims 1, 6, 11, 14, 17 and 22, *Sawada* teaches a ferroelectric liquid crystal display (4) for a computer display (*see* column 3, lines 38-40, figure 1 at 4, *see also* column 1, lines 1-19).

Regarding **Claims 4, 9, 20 and 25**, in further discussion of claims 1 and 6, 17, 22, *Sawada* teaches circuitry wherein the video signal processor and the digital image processor contain the A/D conversion circuit (13) and the gamma characteristic adjustment circuit (19) respectively (column 3, lines 61-67 *through* column 4, lines 10-24 figure 1 at 13, 19).

Regarding **claims 27-32**, in further discussion of claims 1, 6, 11, 14, 17 and 22, *Sawada* teaches the controller 17 connected to the clock generator 14 (*see* figure 1 at 14, 17).

4. **Claims 3, 8, 19 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sawada* (U.S. 6,078,317) in view of *Jeong* (U.S. 6,008,801).

Regarding **Claims 3, 8, 19 and 24**, in further discussion of claims 1, 6, 17 and 22, *Sawada* teaches circuitry wherein the video signal processor and the digital image processor contain the A/D conversion circuit (13) and the gamma characteristic adjustment circuit (19) respectively (column 3, lines 61-67 *through* column 4, lines 10-24 figure 1 at 13, 19). However, *Sawada* does not teach a source driver circuit with a D/A conversion circuit. On the other hand, *Jeong* teaches an invention related to a source driver for a thin film transistor liquid crystal display, which has a digital-to-analog converter (column 1, lines 10-14).

Thus, it would have been obvious for a person of ordinary skill in the art to combine *Sawada* and *Jeong's* inventions because while *Sawada* teaches circuitry wherein the video signal processor and the digital image processor contain the A/D conversion circuit (13) and the gamma characteristic adjustment circuit (19) respectively, *Jeong* teaches a source driver for a thin film transistor liquid crystal display which has a digital-to-analog converter. The motivation for combining these inventions would have been to reduce the power consumption of the source driver, and thus, reduce the power consumption of the liquid crystal device (column 4, lines 1-5).

***Response to Arguments***

5. Applicant's arguments filed March 25, 2003 have been fully considered but they are not persuasive.

Applicant amended independent claims 1, 6, 11, 14, 17, and 22 to include a feature in which the control circuit feeds directly to the display panel and the image processing circuit. Applicant then argues that Sawada fails to teach, disclose or suggest the amended feature because Sawada teaches that the controller 17 controls the display panel via the scanning control 22.

Upon review, Examiner determines that the configuration disclosed in Sawada is similar to that of Applicant because it would have been obvious to a person of ordinary skill in the art to learn from Sawada's design as to how to connect the controller 17 directly to the display unit 4 because the scanning control circuit 22 would be made an integral part of the display unit 4. [This configuration resembles applicant's design which shows the control unit 170 connected directly to the source driver circuit 110, 120, and the gate driver circuit 130 (*see applicant's figure 1 at 110, 120, 130*).] The connection in Sawada of the controller 17 to the scanning control circuit 22 reads directly on applicant's circuit connectivity as shown in figure 1 (Compare figure 1 of Applicant and Sawada). The motivation for doing so would have been to provide a display device which can display an image in correspondence with various display modes (column 2, lines 40-45), and to achieve a scanning control circuit 22 that changes the scanning method in accordance with an instruction from the display mode dependence controller 17 in correspondence with the display mode (column 4, lines 40-43).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Uchendu O. Anyaso

04/05/2003



STEVEN SARAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600